

PE NUMBER: 0208006F

UNCLASSIFIED

PE TITLE: Mission Planning Systems

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 EXHIBIT)								DATE February 1999		
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0208006F Mission Planning Systems				PROJECT 3858		
COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
3858 Air Force Mission Support System (AFMSS)	12,911	16,204	16,764	16,940	17,120	17,381	17,743	18,112	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description

(U) The Mission Planning System program was established in 1990 to consolidate mission planning system development efforts into a single unit-level mission planning system. This program maintains and preserves combat capability on existing legacy planning systems which will migrate into a USAF wide standard mission planning system known as the Air Force Mission Support System (AFMSS). Integrating military and commercial software on Commercial-Off-The-Shelf (COTS) hardware, AFMSS encompasses evolutionary software and hardware development in an open systems architecture. AFMSS today consists of the Mission Planning System (MPS), a UNIX-based system, the Portable Flight Planning System, a PC-based system, and the Joint Mission Planning System, which is the next generation PC-based system.

(U) The MPS provides comprehensive mission planning tools to conduct missions ranging from day-today training, peace time operations/exercises to complex operations supporting conventional and nuclear armed conflict. The MPS design is centered around an open architecture, using standard protocols and interfaces, commercial off-the-shelf (COTS) hardware and software. The MPS currently or will support the following aircraft and associated weapons: B-1, B-2, B-52, C-17, F-15, F-16, F-117, AGM-130, U-2, F-22, UAVs, AGM-142, JDAM, JSOW, WCMD, ABL, JASSM, MALD, Dark Star, Global Hawk, Predator.

(U) The Portable Flight Planning System (PFPS) is the PC-based mission planning system that provides flight planning tools that support day-today training, peace time operations/exercises and conventional armed conflict. The PFPS design is based on single user PCs. The user interface uses Windows 95 and MS Windows NT. The PFPS currently or will support the following aircrafts: F-16, MC-130, EC-130, HC-130H/N/P, AC-130, E-3, E-8, C-130E/H/J, LC-130, WC-130, C-27, E-4, T-38, C-141, RC-135, HH60, KC-10, KC-135R/E, C-5, C-9, A-10, MH-53, MH-47, AH/MH-6J, MH/HH-60.

(U) The Joint Mission Planning Segment (JMPS) is a continuation effort of the AFMSS Mission Planning Systems (MPS) and Portable Flight Planning Software (PFPS) directed at merging the AFMSS and the Navy's Tactical Automated Mission Planning System (TAMPS), to form a single family of systems achieving Global Command and Control System (GCCS) compatibility through compliance with the Defense Information Infrastructure and Common Operating Environment (DII/COE).

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 1999
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
7 - Operational System Development	0208006F Mission Planning Systems	3858
<p>(U) <u>FY 1998</u></p> <ul style="list-style-type: none"> -(U) \$ 7,951 Finalize C2.0/C2.1 software development -(U) \$ 2,298 Begin C2.3 software development -(U) \$ 2,662 Continue AFMSS A/W/E development/support/integration for the platforms listed above -(U) \$12,911 Total <p>(U) <u>FY 1999</u></p> <ul style="list-style-type: none"> -(U) \$ 1,459 MPS core software development support -(U) \$ 3,216 Begin PFPS software development support -(U) \$ 3,615 Continue AFMSS A/W/E development/support/integration for the platforms listed above -(U) \$ 6,400 Begin JMPS migration effort -(U) \$ 1,000 Stand up Responsible Test Organization (RTO) support -(U) \$ 514 Identified as a source for SBIR -(U) \$16,204 Total <p>(U) <u>FY 2000</u></p> <ul style="list-style-type: none"> -(U) \$ 2,164 Continue PFPS software development support -(U) \$ 2,822 Continue AFMSS A/W/E development /support/integration for the platforms listed above -(U) \$11,018 Continue JMPS migration effort. -(U) \$ 760 Continue Responsible Test Organization (RTO) support -(U) \$16,764 Total <p>(U) <u>FY 2001</u></p> <ul style="list-style-type: none"> -(U) \$ 1,966 Continue PFPS software development support -(U) \$ 2,519 Continue AFMSS A/W/E development/support/integration for the platforms listed above -(U) \$11,699 Continue JMPS migration effort -(U) \$ 756 Continue Responsible Test Organization (RTO) support -(U) \$16,940 Total <p>(U) B. Budget Activity Justification:</p> <p>(U) Mission Planning Systems are in budget activity 7, Operational System Development, because the program currently supports deployed AFMSS systems, which include transportable, non-deployable, and portable laptop workstations. AFMSS Block C1.5 and Block C2.0 software are operationally fielded and Block C2.1 is in the process of fielding to the Combat Air Forces (CAF). AFMSS Block C2.2, which incorporates Y2K fixes among other new requirements was released and has begun operational test and evaluation in the 1st quarter of FY99.</p>		
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<p>(U) C. <u>Program Change Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;"></th> <th style="width: 15%; text-align: center;"><u>FY 1998</u></th> <th style="width: 15%; text-align: center;"><u>FY 1999</u></th> <th style="width: 15%; text-align: center;"><u>FY 2000</u></th> <th style="width: 15%; text-align: center;"><u>FY 2001</u></th> <th style="width: 10%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget (FY 1999)</td> <td style="text-align: center;">14,747</td> <td style="text-align: center;">17,090</td> <td style="text-align: center;">17,069</td> <td style="text-align: center;">17,262</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">16,526</td> <td style="text-align: center;">17,090</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. General Congressional Reductions</td> <td style="text-align: center;">-1,394</td> <td style="text-align: center;">-886</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">b. Small Business Innovative Research (SBIR)</td> <td style="text-align: center;">-387</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus</td> <td style="text-align: center;">-100</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogramming</td> <td style="text-align: center;">-1,734</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY99 PB</td> <td></td> <td></td> <td style="text-align: center;">-305</td> <td style="text-align: center;">-322</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2000 PB</td> <td style="text-align: center;">12,911</td> <td style="text-align: center;">16,204</td> <td style="text-align: center;">16,764</td> <td style="text-align: center;">16,940</td> <td style="text-align: center;">TBD</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Significant Program Changes: N/A</p> <p>FY 99: \$514 identified as a source for SBIR.</p>							<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>	(U) Previous President's Budget (FY 1999)	14,747	17,090	17,069	17,262	TBD	(U) Appropriated Value	16,526	17,090				(U) Adjustments to Appropriated Value						a. General Congressional Reductions	-1,394	-886				b. Small Business Innovative Research (SBIR)	-387					c. Omnibus	-100					d. Below Threshold Reprogramming	-1,734					(U) Adjustments to Budget Years Since FY99 PB			-305	-322		(U) Current Budget Submit/FY 2000 PB	12,911	16,204	16,764	16,940	TBD
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<div style="display: flex; justify-content: space-between;"> Project 3858 Page 3 of 8 Pages Exhibit R-2 (PE 0208006F) </div>																																																																	

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<p>(U) D. <u>Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 5%; text-align: center;"><u>FY 1998</u></th> <th style="width: 5%; text-align: center;"><u>FY 1999</u></th> <th style="width: 5%; text-align: center;"><u>FY 2000</u></th> <th style="width: 5%; text-align: center;"><u>FY 2001</u></th> <th style="width: 5%; text-align: center;"><u>FY 2002</u></th> <th style="width: 5%; text-align: center;"><u>FY 2003</u></th> <th style="width: 5%; text-align: center;"><u>FY 2004</u></th> <th style="width: 5%; text-align: center;"><u>FY 2005</u></th> <th style="width: 5%; text-align: center;"><u>To Compl</u></th> <th style="width: 5%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Other Procurement, AF WSC 833040, Theater Air Control System Improvement (TACSI)</td> <td style="text-align: right;">14,245</td> <td style="text-align: right;">6,097</td> <td style="text-align: right;">12,744</td> <td style="text-align: right;">17,515</td> <td style="text-align: right;">16,521</td> <td style="text-align: right;">16,474</td> <td style="text-align: right;">16,822</td> <td style="text-align: right;">17,201</td> <td style="text-align: center;">Cont</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Other Procurement, AF, WSC 86190A, Initial Spares</td> <td style="text-align: right;">950</td> <td style="text-align: right;">1,497</td> <td style="text-align: right;">1,124</td> <td style="text-align: right;">1,078</td> <td style="text-align: right;">794</td> <td style="text-align: right;">566</td> <td style="text-align: right;">537</td> <td style="text-align: right;">387</td> <td style="text-align: center;">Cont</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Operations & Maintenance, AF, 0208006F</td> <td style="text-align: right;">21,039</td> <td style="text-align: right;">24,331</td> <td style="text-align: right;">34,112</td> <td style="text-align: right;">38,065</td> <td style="text-align: right;">33,892</td> <td style="text-align: right;">36,535</td> <td style="text-align: right;">37,673</td> <td style="text-align: right;">37,879</td> <td style="text-align: center;">Cont</td> <td style="text-align: center;">TBD</td> </tr> </tbody> </table> <p>(U) O&M funds for PE 28006F support the software and hardware maintenance costs of the Air Force Mission Support System (AFMSS) and the Common Mapping Production System. These funds also support the maintenance of the following existing operational systems until replaced by AFMSS: Mission Support System II (MSS IIA) supports existing combat capability for the F-15 and F-16 aircraft mission planning (F/RF-4 and F-111 are now retired); Mission Data Preparation System (MDPS) supports conventional and nuclear mission planning, aircraft/weapons avionics loading, compatibility between evolving B-1B, B-52H avionics, their weapons systems, and USSTRATCOM. O&M funding supported approximately 240 older systems in FY94. By FY99, a similar amount of funding will support over 2900 AFMSS mission planning systems world-wide.</p> <p>(U) There are no other AFMSS core related RDT&E activities for unit level mission planning in the USAF. Over 50 individual aircraft and weapons programs develop their respective software that is used in conjunction with the AFMSS core software. The aircraft and weapons software is a complimentary, synergistic effort that provides specific aircraft and weapons information and functionality to the core AFMSS software. The combined software gives the warfighter the full spectrum of mission planning and combat capabilities for their aircraft or weapon including interoperability with planned Theater Battle Management (TBM) systems.</p>												<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>	(U) Other Procurement, AF WSC 833040, Theater Air Control System Improvement (TACSI)	14,245	6,097	12,744	17,515	16,521	16,474	16,822	17,201	Cont	TBD	(U) Other Procurement, AF, WSC 86190A, Initial Spares	950	1,497	1,124	1,078	794	566	537	387	Cont	TBD	(U) Operations & Maintenance, AF, 0208006F	21,039	24,331	34,112	38,065	33,892	36,535	37,673	37,879	Cont	TBD
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(U) **E. Acquisition Strategy:**

(U) The Air Force Mission Support System (AFMSS) program is managed within the Combat Air Forces (CAF) Command and Control (C2) Systems Program Office, Electronic Systems Center, Hanscom AFB, Massachusetts. The AFMSS acquisition strategy leverages military and commercial software integrated on Commercial-Off-The-Shelf (COTS) hardware. AFMSS encompasses evolutionary software and hardware development in an open systems architecture. The Contractors for the AFMSS projects are Sanders, a Lockheed Martin Company, for the MPS and C-17, KC-10, C-5, C-9, C-141, E-3, E-8, KC-135E/R A/W/Es; 46th Test Squadron (46TS), Eglin AFB, FL, for the PFPS; and Logicon and GDE for JMPS. A/W/E development is also performed in-house (government) by Oklahoma City Air Logistics Center (OC-ALC), Tinker AFB, Oklahoma; Sacramento Air Logistics Center (SM-ALC), McClellan AFB, Ca; Warner Robbins Air Logistics Center (WR-ALC), Robbins AFB, Ga; and Ogden Air Logistics Center (OO-ALC), Hill AFB, Utah.

(U) The Joint Mission Planning Segment (JMPS) is in the solicitation phase. The current plan is to begin migration activities in the FY99-FY05 time frame while individual weapon systems transition with planned Operational Flight Program (OFP) upgrades.

(U) **F. Schedule Profile**

	<u>FY 1998</u>				<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(U) MPS C2.1 Software Release		*														
(U) MPS C2.1 OT&E Complete					X											
(U) MPS C2.2 Software Release			*													
(U) MPS C2.2 OT&E Begin					*											
(U) MPS C2.2 OT&E Complete									X							
(U) MPS C2.3 Development Begins					X											
(U) MPS C2.3 Software Release										X						
(U) MPS C2.3 OT&E Begins												X				
(U) PFPS 3.01 Software Release				*												
(U) PFPS 3.1 Software Release					X											
(U) JMPS Study Complete							X									
(U) JMPS Source Selection Complete								X								
(U) JMPS 1.0 Software Release																X

* denotes completed event
X denotes planned event

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)			DATE February 1999	
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0208006F Mission Planning Systems		PROJECT 3858
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>				
	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
(U) Primary Software Development	5,334	6,940	10,000	10,900
(U) Aircraft/Weapons/Electronics (A/W/E) Integration Spt.	500	250	0	0
(U) Systems Engineering	3,500	2,905	2,589	2,290
(U) Program Management	2,900	4,095	2,952	2,551
(U) Test and Evaluation	0	1,000	760	756
(U) Miscellaneous	677	500	463	443
(U) Identified as a source for SBIR	0	514	0	0
(U) Total	12,911	16,204	16,764	16,940
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(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u>											
Performing Organizations:											
Contractor or Government <u>Performing Activity</u>	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1998</u>	Budget <u>FY 1998</u>	Budget <u>FY 1999</u>	Budget <u>FY 2000</u>	Budget <u>FY 2001</u>	Budget to <u>Complete</u>	Total <u>Program</u>
Identified as a source for SBIR							514				
<u>Product Development Organizations</u>											
TBD (JMPS)	TBD	TBD	TBD	TBD	0	0	4,000	8,800	9,500	Cont	TBD
Sanders	CPAF	Dec 92	TBD	TBD	87,367	5,834	572	0	0	Cont	TBD
46 TS (Eglin AFB)	Project Order	Dec 98	TBD	TBD	0	0	2,618	1,200	1,400	TBD	TBD
Logicon	CPAF	Aug 94	2,438	2,438	2,438	0	0	0	0	0	2,438
Boeing	FFP	Aug 91	6,455	6,455	6,455	0	0	0	0	0	6,455
A/W/E Integration Activity	Time & Material	Oct 98	TBD	TBD	0	0	2,333	1,847	1,614	TBD	TBD
SPO Misc					3,772	677	500	463	443	Cont	TBD
Classified Progr.					15,296	0	0	0	0	0	15,296
<u>Support and Management Organizations</u>											
FFRDC			TBD	TBD	8,848	3,500	1,940	1,737	1,517	Cont	TBD
Miscellaneous			TBD	TBD	6,632	2,900	2,727	1,957	1,710	Cont	TBD
<u>Test and Evaluation Organizations</u>											
46TW (Eglin AFB)	Project Order	Oct 98	TBD	TBD	0	0	1,000	760	756	TBD	TBD
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BUDGET ACTIVITY		PE NUMBER AND TITLE				PROJECT	
7 - Operational System Development		0208006F Mission Planning Systems				3858	
Government Furnished Equipment: N/A							
		Total					
		Prior to					
		<u>FY 1998</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Budget to</u>
							<u>Complete</u>
							<u>Total</u>
							<u>Program</u>
Subtotal Product Development		115,328	6,511	10,023	12,310	12,957	Cont
Subtotal Support and Management		15,480	6,400	4,667	3,694	3,227	Cont
Subtotal Test and Evaluation		0	0	1,000	760	756	TBD
Identified as a source for SBIR				514			TBD
Total Project		130,808	12,911	16,204	16,764	16,940	Cont